**Solving Einstein's field equations with Mathematica** JAMES
CLAYCOMB, RAMBIS CHU, Department of Physics Texas Southern University
— We report an example using Mathematica to solve the semi-classical Einstein
field equations in spherical coordinates. Metric variations resulting from the Casimir
effect are calculated for an ideal massless superconducting sphere. Expressions for
the change in scalar curvature inside the superconducting boundary are developed.
We first consider the static case when the sphere is superconducting. Metric equa-
tions are then developed for the evolution of a scalar quantum field after the sphere
transitions to the normal state.

James Claycomb
Department of Mathematics and Physics Houston Baptist University

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